



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,347	01/22/2004	Yoshihiro Oba	3119-102	3254
52190	7590	11/14/2005	EXAMINER	
WATCHSTONE P + D 1300 EYE STREET, NW 400 EAST TOWER WASHINGTON, DC 20005			TAYLOR, NICHOLAS R	
			ART UNIT	PAPER NUMBER
			2141	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/761,347

Applicant(s)

OBA ET AL.

Examiner

Nicholas R. Taylor

Art Unit

2141

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-27 have been presented for examination and are rejected.

### ***Response to Arguments***

2. Applicant's arguments filed 10/26/2005 have been fully considered but they are deemed not persuasive.

3. In the remarks, applicant argued in substance that:

(A) Prior art of Acharya fails to teach sending network provider advertising information to the client, as the server (100,200) is not a "client". It is well known that "a client is a node or software program that requests services from another node or software program". Acharya further fails to send advertising information to the server, or specify with which network the client desires access.

As to point (A), servers are also capable of acting as clients when a general definition of the term "client" is applied; a good example is the definition supplied by Applicant above. For example, when two servers exclusively communicate with each other, their transmissions alternate between one acting as the current "client", while the other is the "server". In this sense, the server in Acharya is acting as a client when requesting services from another node.

Art Unit: 2141

Advertising information is also transmitted between server and client through the transactions that take place in the network. The server is made aware of the available service provider networks to connect with, and must specify one in order to communicate via that connection. Paragraphs 0017-0022 of Acharya outline the methods of transmitting this advertising information.

(B) Prior art of Acharya does not teach multiple separate communication tunnels provided between the networks. Further, Acharya does not teach network connections to at least two serving networks.

As to point (B), cited paragraph 0022 explicitly states, "These tunnels, once established, can be assigned to *different virtual interfaces* on the general purpose computer, which each interface corresponding to a *different ISP link*" (emphasis added).

(C) The combination of Acharya and Forsl w is improper because Forsl w is "irrelevant" to the present invention.

As to point (C), the combination of Forsl w would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065). Both Forsl w and Acharya teach IP layer implementations, and Acharya teaches a virtual interface methodology that would be benefit from the VPN security and management techniques taught by Forsl w.

Art Unit: 2141

(D) The combination of Acharya and Le is improper because Le is directed to a different layer of network functionality and no useful purpose would be achieved by the combination.

As to point (D), both are network management systems that teach implementations on the IP layer (see Acharya, paragraph 0022 and Le, abstract). See also the motivation given in the previous office action.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-6, 9, 10, 13, 17, 22, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Acharya et al. (US PGPub 2005/0108386).

6. As per claim 1, Acharya teaches a method of dynamically connecting a client node to a serving network, comprising the steps of:

providing an access network to which a client node has a network connection;

providing at least one access router having a network connection to said access network and having a network connection to at least one serving network; (Acharya, paragraph 0014)

sending serving network provider advertising information to said client node;

receiving from said client node serving network provider information specifying a serving network to which said client node desires access; and

establishing a communication tunnel between said client node and said access router through said access network, such that said client node is able to send and receive data packets to and from the serving network specified by said client node within said communication tunnel through said access network (Acharya, paragraph 0022).

7. As per claim 3, Acharya teaches the system further comprising the step of providing a second access router having a network connection to said access network and having network connections to at least two serving networks (Acharya, paragraph 0014).

8. As per claim 4, Acharya teaches the system further wherein when a serving network specified by said client node is associated with said second access router, said establishing step further comprises the step of binding said communication tunnel to said specified serving network associated with said second access router by using serving network information of said specified serving network as a security association

Art Unit: 2141

identifier of said communication tunnel (Acharya, paragraph 0022, specifically the specified virtual interface).

9. As per claim 5, Acharya teaches the system further wherein said access router has network connections to at least two serving networks, said method further comprising the step of establishing a second communication tunnel between said client node and said access router through said access network, such that said client node is able to selectively send and receive data packets to and from each of said two serving networks (Acharya, paragraph 0022).

10. As per claim 6, Acharya teaches the system further comprising the step of providing a second access router having a network connection to said access network and a network connection to at least one serving network, said method further comprising the step of establishing a second communication tunnel between said client node and said second access router through said access network, such that said client node is able to selectively send and receive data packets to and from each of said serving networks associated with said access routers through said communication tunnels (Acharya, paragraph 0022).

11. As per claim 9, Acharya teaches the system further wherein said at least one serving network comprises an Internet Service Provider network (Acharya, paragraph 0014).

12. As per claim 10, Acharya teaches the system further wherein said at least one serving network comprises a Network Access Provider network (Acharya, paragraph 0014).

13. As per claim 13, Acharya teaches the system further wherein said access network comprises an IP access network (Acharya, paragraph 0022).

14. As per claim 17, Acharya teaches the system further wherein said client node connects to said access network via a remote network (Acharya, paragraph 0014).

15. As per claim 22, Acharya teaches a method of connecting a client node to multiple Internet service providers, comprising the steps of:

providing an access network through which said client node may communicate with said multiple Internet service providers; and (Acharya, paragraph 0014)

establishing a separate communication tunnel within said access network for each of said multiple Internet service providers, such that said client node is able to send and receive data packets to and from each of said Internet service providers within said separate communication tunnels through said access network (Acharya, paragraph 0022).



Art Unit: 2141

16. As per claim 25, Acharya teaches a method of connecting a client node to a serving network, comprising the steps of:

providing an access router having a network connection to at least two serving networks; (Acharya, paragraph 0014)

receiving from said client node serving network information specifying a serving network to which said client node desires to have access;

establishing a communication tunnel between said client node and said access router through said access network, such that said client node is able to send and receive data packets to and from the serving network specified by said client node within said communication tunnel through said access network; and (Acharya, paragraph 0022).

binding said communication tunnel to said specified serving network by using serving network information of said specified serving network as a security association identifier of said communication tunnel (Acharya, paragraph 0022, specifically the specified virtual interface).

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2141

18. Claims 2, 8, 11, 12, 14-16, 18-21, 23, 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya et al. (US PGPub 2005/0108386) and Forsl w (US PGPub 2002/0069278).

19. As per claim 2, Acharya teaches the above yet fails to teach further comprising the step of authenticating said client node prior to establishing said communication tunnel.

Forsl w teaches authenticating clients prior to establishing IPsec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

20. As per claim 8, Acharya teaches the above yet fails to teach wherein said step of sending serving network provider advertising information comprises the step of using a Router Discovery mechanism.

Forsl w teaches authenticating clients prior to establishing IPsec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094) that utilizes a Router Discovery mechanism (Forsl w, claim 85). It would have been obvious to one of ordinary skill in the art, at the

Art Unit: 2141

time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

21. As per claim 11, Acharya teaches the above yet fails to teach wherein said at least one serving network comprises a VLAN network.

Forsl w teaches authenticating clients prior to establishing IPsec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

22. As per claim 12, Acharya-Forsl w teaches the system further comprising the step of providing a virtual access point in said VLAN serving network, through which a client node may connect directly to said VLAN serving network (Forsl w, paragraph 0094).

23. As per claim 14, Acharya teaches the above yet fails to teach wherein said access network comprises a VLAN access network.

Forsl w teaches authenticating clients prior to establishing IPSec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

24. As per claim 15, Acharya-Forsl w teaches the system further wherein said VLAN access network is partitioned into multiple VLAN access sub-networks (Forsl w, paragraph 0104).

25. As per claim 16, Acharya-Forsl w teaches the system further comprising the step of providing a virtual access point in said VLAN access network, through which a client node may connect to said VLAN access network (Forsl w, paragraph 0094).

26. As per claim 18, Acharya teaches the above, yet fails to teach wherein the step of establishing said communication tunnel comprises the step of using an IPSec key management protocol.

Forsl w teaches authenticating clients prior to establishing IPSec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094) using an IPSec key management protocol (Forsl w,

Art Unit: 2141

paragraph 0139). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

27. As per claim 19, Acharya teaches the above yet fails to teach wherein said client node is a mobile node, and said network connection of said client node to said access network is a wireless connection.

Forsl w teaches authenticating clients prior to establishing IPSec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

28. As per claim 20, Acharya teaches the above yet fails to teach wherein said communication tunnel is a secure communication tunnel.

Forsl w teaches authenticating clients prior to establishing IPSec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094) using an IPSec key management protocol (Forsl w,

Art Unit: 2141

paragraph 0139). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

29. As per claim 21, Acharya-Forsl w teaches the system further comprising the step of establishing said secure communication tunnel using an IPSec key management protocol (Forsl w, paragraph 0139).

30. As per claim 23, Acharya teaches the above yet fails to teach wherein said communication tunnel is a secure communication tunnel.

Forsl w teaches authenticating clients prior to establishing IPSec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094) using an IPSec key management protocol (Forsl w, paragraph 0139). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

31. As per claim 24, Acharya-Forsl w teaches the system further comprising the step of establishing said secure communication tunnel using an IPSec key management protocol (Forsl w, paragraph 0139).

32. As per claim 26, Acharya teaches the above yet fails to teach wherein said communication tunnel is a secure communication tunnel.

Forsl w teaches authenticating clients prior to establishing IPSec secure communication tunnels (Forsl w, paragraphs 0093 and 0108) in a wireless VLAN network (Forsl w, paragraph 0094) using an IPSec key management protocol (Forsl w, paragraph 0139). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Forsl w to provide the networking system of Forsl w in the system of Acharya, because doing so would enable the benefits of a mobile virtual private network providing secure client data access (Forsl w, paragraph 0065).

33. As per claim 27, Acharya-Forsl w teaches the system further comprising the step of establishing said secure communication tunnel using an IPSec key management protocol (Forsl w, paragraph 0139).

34. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya et al. (US PGPub 2005/0108386) and Le et al. (US PGPub 2004/0019664).

Art Unit: 2141

35. As per claim 7, Acharya teaches the above yet fails to teach wherein said step of sending serving network provider advertising information comprises the step of using a PANA protocol.

Le teaches the use of a PANA protocol in advertising network elements (Le, paragraphs 0039-0044). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Acharya and Le to provide the PANA protocol of Le in the system of Acharya, because doing so would PANA based advertisements.

### ***Conclusion***

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Taylor whose telephone number is (571) 272-




Art Unit: 2141

3889. The examiner can normally be reached on Monday-Friday, 8:00am to 5:30pm, with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas Taylor  
Examiner  
Art Unit 2141



RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER